

REMARKS

Claims 1, 4-9, 11, 28-33 are pending in this Application. Claims 2, 3, 10 and 12-27 were previously canceled. Independent Claims 1, 28, and 30 have been amended. New Claim 34 has been added. Claim 29 has been canceled.

REJECTION FOR OBVIOUSNESS-TYPE DOUBLE PATENTING (ODP)

The Examiner rejected the terminal disclaimers filed previously but advised that Applicant's representative should call Ms. Angela Walker (571-272-1058), which he did regarding the impropriety of the rejection on the basis that the "attorney listed in each terminal disclaimer is not an attorney of record." Ms. Walker left a voicemail on 2/19/10 indicating that the rejection had been withdrawn as the terminal disclaimers with respect to the Duselis references were executed by the officers of the Applicant, James Hardie International Finance, B.V., the assignee of the pending application via the recorded assignment (Reel 014636, Frame 0257) and having rights in the application through the Statement Under 37 C.F.R. 3.73(b) by the Applicant filed April 12, 2006.

REJECTION UNDER 35 U.S.C. § 102 (a) and (e)

The claims are rejected under § 102(a) and (e) as being anticipated by U.S. Patent Nos. 6,506,248 ("Duselis '248") and 6,346,146 ("Duselis '146") (referred to collectively hereafter as "Duselis" or "Duselis et al.").

The Office has stated that "Duselis *et al.* teach a composition comprising a combination of blend of bleached and unbleached cellulose fibers in amounts overlapping applicants' claims (see, for example, Duselis *et al.* 248 B1, col. 5, lines 15-

21). *Duselis et al.* thus anticipate applicants' claims." The cited section is the only disclosure regarding the types of fiber that may be used, which provides:

The cellulose fibres may be bleached, unbleached, partially bleached or mixtures thereof. The fibrous materials may be present in a concentration of 0 to 25 wt %, preferably 2 to 16 wt %, more preferably 5 to 15 wt % based on the weight of the dry formulation.

Claim 1 recites: A composite material, comprising:

a cementitious matrix; and

cellulose fibers incorporated into the cementitious matrix, wherein the cellulose fibers comprise a blend of bleached and unbleached cellulose fibers and wherein the bleached cellulose fibers comprise between about 12 and 17 weight percent of the total cellulose fibers incorporated into the matrix.

The Office relies on *Duselis's* disclosure that "[t]he cellulose fibres may be bleached, unbleached, partially bleached or mixtures thereof" as anticipating the specific claimed range of bleached fibers of about 12 to about 17 weight percent of the total cellulose fibers. But it is well established that a prior art genus cannot anticipate a species range in the absence of disclosure of a prior embodiment within that claimed range. In *Atofina*, in reversing the lower court's finding of anticipation based on overlapping temperature ranges, the Federal Circuit held that a genus cannot anticipate a species claim even through the claimed temperature range (330 to 450 °C) overlapped the range taught by the prior art patent (100 to 500 °C), because no specific embodiment was disclosed in the prior art patent that taught the claimed range. *Id.* at 1423-24. (See MPEP 2131.03 for a discussion of this rule and case.)

Here, as alleged by the Office, *Duselis* generally discloses compositions comprising a mixture of bleached and unbleached fibers that effectively anticipates any

composition having bleached and unbleached cellulose fibers and, under the Office's reasoning, the periodic table anticipates every chemical composition. *Duselis* does not disclose a specific embodiment within the claimed range and cannot anticipate Claim 1.

The Examiner also asserts that *Duselis et al.* discloses that total fibers are present up to 25 weight percent of the dry formulation to anticipate that "bleached fibers comprise between about 12 and 17 weight percent of the total cellulose fibers incorporated into the matrix."

The pending application describes and claims that cellulose fibers comprise about 0.5% to 20% cellulose fibers of the dry formulation, therefore, bleached fibers comprise between about 0.06% to about 3.4% of the dry formulation.

With respect to *Duselis*, Example 2 discloses two fiber cement formulations with each comprising 11.0% bleached pulp. Example 4 discloses two formulations with one formulation, Formulation 1, comprising unbleached pulp and Formulation 2 lacking pulp. Example 6 showing the properties of Microcel E with Formulation 1 comprising 11 wt. % unbleached fibers (no bleached) and Formulation 2 comprising 11 wt. % bleached fibers (no unbleached). Example 7 provides three compositions with different cement blends but each having 11.0. Example 8 provides a composition with a commercial CSH and comprises 11 wt. % bleached fibers. In sum, the amount of bleached fibers per dry formulation is 11 wt. % for all formulations containing bleached fibers. Reconsideration for allowance is respectfully solicited.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 1 and 4-9, 11, and 28-33 are rejected under § 103(a) is in view of the *Duselis* references alone, or alternatively, in view of Cook et al. (U.S. Patent No.

6,942,726) and Gregerson et al. (EP 263723). Claim 29 has been canceled and its rejection is moot.

Common ownership by the assignee

Although a formal rejection has not been made the Examiner seems to express some doubt as to the common ownership of U.S. Patent Nos. 6,506,248 ("Duselis '248") and 6,346,146 ("Duselis '146") with the pending application. Attached herewith are copies of the assignment recordals that reflect that Duselis '248 and Duselis '146 were commonly owned at the time of filing by the Applicant's predecessor, James Hardie Research Pty Limited and were subsequently and collectively assigned to the Applicant, James Hardie International Finance B.V.

The pending application was filed January 7, 2004 and claims priority to provisional Appl. No. 60/439,040 filed January 9, 2003 (assigned to James Hardie International Finance B.V. on May 6, 2004).

The Duselis patents were both owned by James Hardie Research Pty Limited on the date the pending application was filed on January 7, 2004, as well as the filing date of its priority application filed January 9, 2003. Specifically, James Hardie Research Pty Limited obtained ownership of the *Duselis* patents on June 4, 1998, which it subsequently assigned to James Hardie International Finance B.V. on February 7, 2005.

Unexpected results

Unexpected results were achieved in composite materials of the present invention having bleached cellulose fibers comprising between 12 and 17 weight percent of the total cellulose fiber content recited in independent Claims 1, 28, and 30 as demonstrated by FIGS. 2-4 (modulus of rupture, strain, and toughness, respectively) not suggested by *Duselis*.

For example, FIG. 2 shows that bleached cellulose fibers at about 12 to about 17 weight % per fiber blend unexpectedly improves the modulus of rupture (MOR) in the fiber-cement composites. Specifically, the MOR is about 7.9 MPa in the absence of bleached fibers (0%), but rises to a maximum of about 8.3 MPa at a fiber blend having about 12% bleached fibers that decreases to about 7.7 MPa at 20% bleached fibers blend then gradually increases in MOR with corresponding increases in bleached fibers.

FIG. 3 shows that bleached cellulose fibers at about 12 % to about 17 weight % unexpectedly increases strain resistance in fiber-cement composites. Specifically, strain is about 6000 $\mu\text{m/m}$ at 0% bleached fibers but rises to a peak of about 6,200 $\mu\text{m/m}$ with a fiber blend of about 15% that decreases rather precipitously to about 5,500 $\mu\text{m/m}$ to about 20% bleached fibers and gradually decreases thereafter at corresponding increases in bleached fibers concentrations. In other words, at a critical range of between 12% to about 15% weight percent, bleached fibers increase composite strain resistance to about 6,100 $\mu\text{m/m}$ to about 6,200 $\mu\text{m/m}$ that diminishes significantly at higher concentrations.

FIG. 4 shows that bleached cellulose fibers at about 12 % to about 17 weight % unexpectedly increases toughness in fiber-cement composites. Specifically, toughness

is about 3.6 KJ/m^3 at 0% bleached fibers but rises to a peak of about 3.75 KJ/m^3 with a fiber blend of about 12% that decreases rather precipitously to about 3 KJ/m^3 at about 20% bleached fibers and gradually decreases thereafter at increasing bleached fiber concentrations. Hence, at a critical range of between 10% to about 14% weight percent, bleached fibers increase toughness to about 3.75 KJ/m^3 at about 12% bleached fibers that diminishes significantly at higher concentrations.

Gregerson fails to teach or suggest the recited proportion of bleached fibers of between about 10 to 17 weight percent and *Gregerson* would find the result surprising considering that in most cases *Gregerson* teaches utilizing the bleached to unbleached fibers in a ratio of three to one and provides no teaching or suggestion of the unexpected results obtained with 10 to 17 weight percent of bleached fibers. See examples 7 and 8. Example 7 discloses the use of 1250 kg EO, which the reference states at page 6 is bleached cellulose in combination with 400 kg Sandarne K unbleached cellulose, which corresponds to about **75% weight percent** bleached fibers of total cellulose fibers which far exceeds the recited range of between about 10 and 17 weight percent of the total cellulose fibers. Example 8 discloses the use of 9 parts bleached fibers (EO) and 3 parts unbleached fibers (Sandarne K) for a total cellulose fibers of 12 parts. The bleached fibers comprise 9 parts of 12 parts total cellulose fibers, or **75 weight percent**, as in Example 7, and again *far exceeds the recited range*.

Gregerson in combination with *Duselis* and *Cook* also fails to teach or suggest the claimed invention of Claims 1, 28 and 30. For at least these reasons, dependent Claims 4-9, 11, 31-33 are also believed to be patentable and applicant respectfully requests their reconsideration for allowance.

The fees under 37 C.F.R 1.17(a)(3) and 1.17(e) are believed due and are submitted herewith via payment by credit card. However, Applicant hereby authorizes the Commissioner to charge any additional fees required by this paper, or credit any overpayments due, to Gardere Wynne Sewell LLP Deposit Account No. 07-0153.

**Please direct all correspondence to the practitioner listed below at
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Respectfully submitted,
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